

REMARKS

Claims 1-12 are all the claims pending in the application. By this Amendment, Applicant adds new claim 12.

I. Claim Objection:

The Examiner objects to claim 11 because it recites the term “ink supply portion,” which lacks proper antecedent basis. Applicant amends claim 11 (consistent with the Examiner’s helpful suggestion) by deleting the objectionable term in favor of *--ink supply port--*.

II. Claim Rejections on Prior Art Grounds:

The Examiner rejects claims 1-6 and 9-11 under 35 U.S.C. § 102(b) as being anticipated by U.S. 5,949,459 to Gasvoda et al. (“Gasvoda”); claims 1, 3-5 and 9-11 under 35 U.S.C. § 102(b) as being anticipated by U.S. 6,086,139 to Shimada et al. (“Shimada”); and claim 8 under 35 U.S.C. § 103(a) as being obvious over Shimada in view of U.S. 6,179,416 to Ikeda et al. (“Ikeda”). Applicant respectfully traverses these rejections in view of the following remarks.

A. Independent Claim 1:

Independent claim 1, as amended, recites that the ink cartridge is *--to be mounted on a movable carriage--*, and that the ink supply port has an opening wall that is *--substantially perpendicular to--* and *--located within an area of--* the bottom wall. An exemplary embodiment of these features is depicted in Fig. 6A. Here, the ink cartridge 1 is being mounted on a movable carriage 33. The ink cartridge 1 includes an ink supply port 7 with an opening wall that is substantially perpendicular to the bottom wall 2A. As shown, the opening wall of the ink supply

port 7 is located just under the bottom wall 2A, and therefore the opening wall is located within an area of the bottom wall 2A. At least these features (as recited in claim 1), in combination with the other limitations recited in claim 1, are not taught or suggested by the prior art relied upon by the rejection grounds.

The Gasvoda Reference

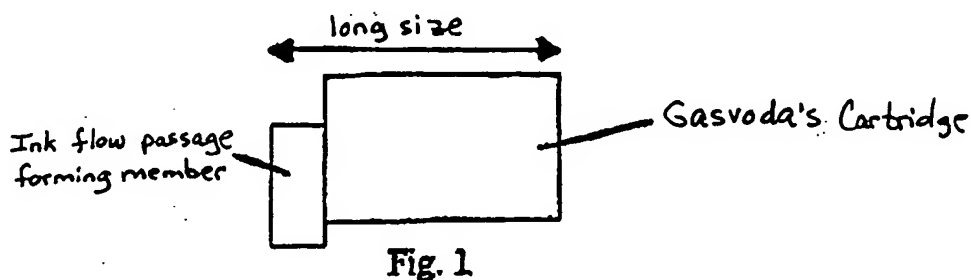
The rejection grounds rely on Gasvoda to teach each and every feature of the invention defined by claim 1. This rejection position is believed to be incorrect for the following reasons.

With reference to Fig. 1 of Gasvoda, the disclosed apparatus includes a replaceable ink container 12 that is connected to a print head 14 (via a conduit 20) and a pump 16 (via a conduit 18). In sharp contrast to the claimed invention, however, the ink container 12 is not mounted on a movable carriage. Instead, and with reference to Figs. 2 and 5, the ink container 12 is mounted within a receiving station 72 of the printer chassis 38. The printer chassis 38 is a stationery element, not a movable element. Certainly then, Gasvoda does not provide any teaching pertinent to the specific mounting location required by claim 1.

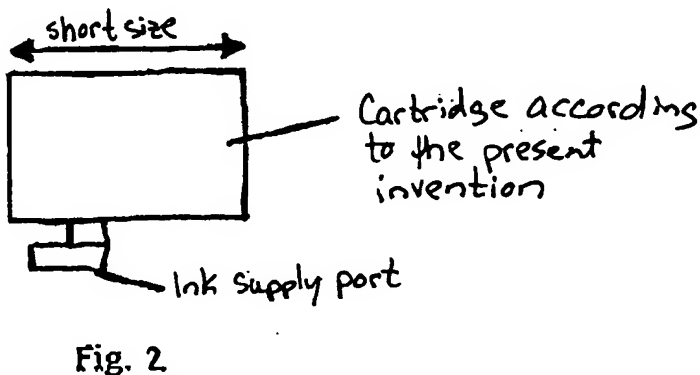
Turning to the next point, an express object of the present invention is to provide an ink cartridge that may be front-loaded without any size increase of carriage. When the ink cartridge is mounted on the carriage, the size of the carriage directly depends on the size of ink cartridge.

As indicated above, Gasvoda's ink container is mounted on a stationery receiving station 72 (not a movable carriage), and therefore Gasvoda is not pertinent to the object of the present invention since (according to Gasvoda's structure) the size of the carriage does not depend on the

size of the ink container. For argument sake, even if Gasvoda were modified so that the ink container 12 were mounted on a movable carriage, an ink flow passage forming member would have to be located on a side of the ink cartridge due to the position of the opening wall of the ink supply port (i.e., at the sidewall). This would lead to an increase length as shown in Fig. 1 below.



This is in sharp contrast to the structure of the present invention that allows for a reduction in the length of an ink cartridge that can be front-loaded. See Fig. 2 below.



For these reasons, Applicant respectfully asserts that claim 1 recites features that are altogether missing from the Gasvoda reference. The Examiner is therefore respectfully requested to reconsider and withdraw this anticipation rejection.

The Shimada Reference

The rejection grounds look to Shimada to teach each and every feature defined by claim

1. This rejection position is believed to be incorrect for the following reasons.

With reference to Fig. 7 of Shimada, the disclosed ink cartridge includes ink supply ports 110a-e that are provided at the bottom wall of the container 70. In sharp contrast to the claimed invention, however, the respective opening wall of the ink supply ports are parallel (not perpendicular) to the bottom wall. Consequently, as will be appreciated from Fig. 3 below, Shimada's cartridge cannot be front-loaded.

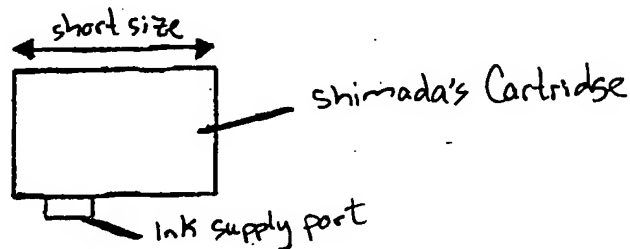


Fig. 3

For these reasons, Applicant respectfully asserts that claim 1 recites features that are altogether missing from the Shimada reference, consequently the Examiner is respectfully requested to reconsider and withdraw this anticipation rejection.

B. Independent Claim 5:

Independent claim 5, as amended, defines an ink jet recording apparatus including an ink jet recording head provided --on a lower wall of the carriage within an accommodation area of

the ink cartridge--, and an ink guide member having a *--horizontally protruded leading end--*.

An exemplary embodiment of these feature is depicted in Fig. 6B. Here, the ink cartridge 1 is mounted on the carriage 33, and the recording head 37 is located just under the bottom wall of the ink cartridge 1. Consequently, the recording head 37 is located within an accommodation area of the ink cartridge 33. Further, the ink supplying needle 38 (or “ink guide member”) has a leading end that is horizontally protruded. At least these features (as recited in claim 5), in combination with the other limitations recited in claim 5, are not taught or suggested by the prior art relied upon by the rejection grounds.

The Gasvoda Reference

The rejection grounds again look to Gasvoda to teach each and every feature defined by claim 5. This rejection position is believed to be incorrect for a couple of reasons. Namely, Gasvoda does not disclose an apparatus with an ink guide member through which ink in the ink cartridge being mounted on the carriage is supplied to the ink jet recording head. Further, Gasvoda does not indicate that the print head 14 is provided on a lower wall of the carriage within an accommodation area of the ink cartridge.

For these reasons, Applicant respectfully asserts that claim 5 recites features that are altogether missing from the Gasvoda reference. The Examiner is therefore respectfully requested to reconsider and withdraw this anticipation rejection.

The Shimada Reference

The rejection grounds rely upon Shimada to teach each and every feature of the invention defined by claim 5. In so doing, the rejection grounds compare Shimada's sealing means 116 to the ink guide member defined by claim 5. This rejection position is believed to be incorrect for the following reasons.

As a preliminary matter, Applicant notes that in Fig. 6 of Shimada, it appears that the sealing means have been incorrectly designated with reference character "117." In any event, the sealing means 116 is a constituent element of the ink cartridge, not the ink jet recording apparatus. Indeed, as clearly shown in Fig. 7, the sealing means 116 is inserted into the ink supply ports 110a-e of the ink cartridge.

Turning to the next point, and with reference to Fig. 3 of Shimada, Applicant notes that the carriage 30 does include ink introducing pipes 72-76 through which ink flows from the ink cartridge to the ink jet recording head 28. However, in sharp contrast to the claimed invention, the ink introducing pipes 72-76 are vertically oriented. That is, the ink introducing pipes do not have a horizontally protruded leading end as required by claim 5. This is not surprising since, as noted above with respect to claim 1, Shimada's ink supply ports 110a-e have opening walls that are parallel to the bottom wall of the ink cartridge. This is the exact reason why Shimada's ink cartridge cannot be front-loaded.

AMENDMENT UNDER 37 C.F.R. § 1.111
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For these reasons, Applicant respectfully asserts that claim 5 recites features that are altogether missing from the Shimada reference. The Examiner is therefore respectfully requested to reconsider and withdraw this anticipation rejection.

Applicant respectfully asserts that claims 1 and 5 are patentable, and that claims 2-4 and 6-12 are patentable at least by virtue of their dependencies. Accordingly, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

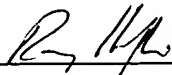
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